

**CONFIDENTIAL**

100-  
FEB 17 1967

CORNING GLASS WORKS  
ELECTRO-OPTICS LABORATORY  
RALEIGH, NORTH CAROLINA

IMPROVED SCREEN FOR REAR-PROJECTION VIEWERS

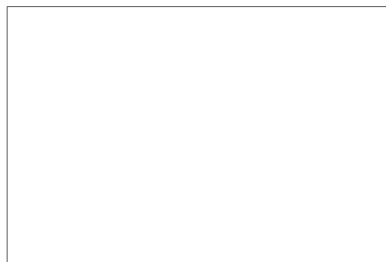
Technical Report No. - 17

Date - January 6, 1967

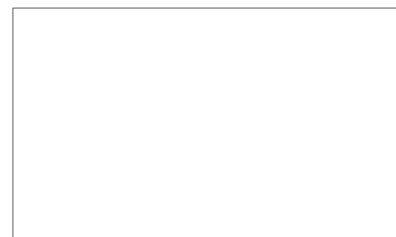
Period Covered - December 12, 1966

to

January 6, 1967



**CONFIDENTIAL**



25X1  
25X1

THIS DOCUMENT CONTAINS INFORMATION AFFECTING  
THE NATIONAL DEFENSE OF THE UNITED STATES, WITHIN  
THE MEANING OF THE ESPIONAGE LAWS, TITLE 18, U.S.C.,  
SECTIONS 793 AND 794. THE TRANSMISSION OR REVELA-  
TION OF WHICH IN ANY MANNER TO AN UNAUTHORIZED  
PERSON IS PROHIBITED BY LAW.

**EXCLUDED FROM AUTOMATIC  
REGRADING; DOD DIR 5200.10  
DOES NOT APPLY**

## TECHNICAL REPORT NO. 17

I. Materials

## A. Glass-Ceramics

Remelts of the AU series with lower particle concentrations are being made. Samples AS-4 and AS-9 are being remelted to obtain samples which are more homogeneous than those first obtained. At the same time we are requesting samples containing larger particles. These materials will have greater variation in brightness but will scatter more light into the  $\pm 45^\circ$  viewing angle and will be less sensitive to ambient light. Investigations relating to fabrication techniques for large screens are continuing; some glass-ceramic materials are being prepared for this work.

B. Fotoform<sup>®</sup> Glass

Three prototype rear-projection screens were fabricated from Fotoform<sup>®</sup> glass and are being evaluated visually. Other samples of this glass containing a Ronchi ruling pattern are being made and etched to give an etched lenticular surface.

## C. Metallic Particles in Glass

Work is continuing to obtain acceptable samples containing metallic particles. Thus far a sample containing .5 micron diameter particles has been made; however, certain difficulties relating to color effects have been encountered.

## D. Material Comparisons

A mosaic made up of 8 commercial screens and 9 samples of CGW materials has been completed. It shows visually that the requirements of  $\pm 15\%$  on brightness uniformity are unnecessarily stringent. A detailed discussion of this will be given in the next full technical report.

II. Instrumentation

An instrument to measure the sensitivity of rear-projection screens to ambient illumination has been constructed and is being evaluated. A discussion of this instrument, its principle of operation, and some initial results will be reported in Technical Report No. 18.

CONFIDENTIAL